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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/718,007

11/20/2003

Alan Michael Jaffee

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01/26/2009

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EXAMINER

MATZEK, MATTHEW D

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

01/26/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/718,007	Applicant(s) JAFEE ET AL.	
	Examiner MATTHEW D. MATZEK	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-64, 71-84, 91-94 and 99 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 51-64, 71-84, 91-94 and 99 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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In view of the Appeal Brief filed on 10/21/2008, PROSECUTION IS HEREBY REOPENED. New rejections are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/D. Lawrence Tarazano/

Supervisory Patent Examiner, Art Unit 1794.

Claim Rejections - 35 USC § 112

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 82-84, 91-94 and 99 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim limitation of "...comprising a blend of fibers

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suitable for use as the scored and folded vertical webs spanning between an exposed mat and a backer mat in a compressible ceiling tile as described in published U.S. Patent Application No. 20020020142 filed April 23, 2001...” is improper. Claims may not incorporate or incorporate by reference another publication, but instead should clearly spell out the intended structure, composition, etc. of the invention. For purposes of examination the aforementioned claim limitation has been interpreted as an intended use limitation as it fails to provide any quantifiable guidance as to how the claimed article differs from other fibrous nonwoven mats in the same field of endeavor.

Claim Rejections - 35 USC § 103

2. Claims 51-64, 71-84, 91-94 and 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaffee (US 5,772,846) in view of Arkens et al. (US 5,661,213).

a. Jaffee discloses a nonwoven glass fiber mat comprising a major portion of glass fibers and a minor portion of polymeric fibers with crosslinkable binder (abstract). The ***mat may be any weight*** (emphasis added) but its preferred weight is from about 1.8 to about 2.2 pounds per 100 square feet for use as a facer (col. 3, lines 6-18). The invention of Jaffee is not limited to its use as a facer, but may also be made into other forms such as an accordion-shaped filter (col. 2, lines 20-28). Examiner takes the position that since the invention of Jaffee may be of any basis weight and the fact that the reference also discloses that the preferred basis weight is ***about 2.2 pounds per 100 square feet*** (emphasis added) it would have been obvious to one of ordinary skill in the art to have modified the applied nonwoven glass fiber mat to have a basis weight of about 2.3-2.6 pounds per 100 square feet based upon the desired properties of the final product and its

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intended use (i.e. filter, facer, etc). Jaffee fails to teach a preferred thickness for the nonwoven glass fiber mat, but does provide a singular example that has a thickness of 31 mils (Example 2). Mat thickness, like basis weight, is chosen depending on the desired properties of the final product and said product's intended use. Therefore, it also would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the invention of Jaffee with a mat thickness of between 38 and 48 mils. The applied invention can also be pleated or thermoformed to produce a variety of composites and laminates (abstract) and as such is suitable for use as a scored and folded vertical web as now claimed.

b. Jaffee's nonwoven mat comprises glass fibers with diameters of between about 9 and 20 microns, preferably 16 microns, and lengths of around one inch (col. 3, lines 8-10, 34-61). The nonwoven mat further comprises polyester fibers of 1.5 denier with lengths as low as 0.25 inches (Example 2) and acrylic binder. The binder may be present in the nonwoven mat at up to 35 weight percent of said mat (abstract) and Example 2 provides the specific value of 20 weight percent, which meets the binder level of claim 51 and Example 4 recites binder levels of 25 weight percent.

c. Example 2 of Jaffee uses a fiber blend comprising 85 weight percent glass fiber and 15 weight percent polyester fiber. The relative amounts of glass and polyester fibers is a result-effective variable affecting its strength and the degree of skin irritation caused to the invention's handlers (col. 6 lines 6-39). Consequently, absent a clear and convincing showing of unexpected results demonstrating the criticality of the claimed ratio, it would have been obvious to one of ordinary skill in the art to optimize this result-

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effective variable by routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

d. Example 2 provides for a stiffness of 45 and the instantly claimed invention recites a Taber stiffness of 50. Alan Jaffee, who is also an inventor in the applied patent, has attested that while not explicitly stated the applied reference's stiffness values are in fact Taber Stiffness values with units of gram centimeters. The applied reference teaches that the stiffness value of 45 was higher than desired for a facer, however one of ordinary skill in the art at the time of the invention would have found it obvious to have modified the applied nonwoven glass fiber mat to have a Taber stiffness of at least about 50 grams centimeters based upon the desired properties of the final product and its intended use (i.e. other than a facer). Jaffee fails to use a binder that is at least partially cured and before drying and curing comprises a homopolymer or a copolymer of polyacrylic acid and a polyol.

e. Arkens et al. relates to a formaldehyde-free curable aqueous composition containing a polyacid, a polyol and a phosphorus-containing accelerator. The composition may be used as a binder for heat resistant nonwovens such as nonwovens composed of fiberglass. (Abstract) Arkens et al. teaches nonwovens that contain heat-resistant fibers such as for example, aramid fibers, certain polyester fibers, glass fibers, among others. By "heat-resistant fibers" is meant (in Arkens et al.) fibers which are substantially unaffected by exposure to temperatures above 125°C (col. 8, lines 23-31). The reference teaches that the polyacid may be a compound with a molecular weight of less than about 1000, bearing at least two carboxylic acid groups and teaches that it may

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be a polymeric acid that is preferably an addition polymer formed from at least one ethylenically unsaturated monomer (such as methacrylic acid, acrylic acid, among others) (col. 3, line 45 through col. 4, lines 1-5). The reference further teaches that the polyol may be triethanolamine (col. 6, lines 1-6). The formaldehyde-free curable aqueous composition may also contain emulsifiers, pigments, fillers, colorants, wetting agents (*equated to hydrophilic material*), among other components (col. 6, lines 52-57). The reference teaches a nonwoven substrate made from a fiberglass fiber at 1.25 inches in length with a binder add-on of 28%.

f. Since both references are directed to glass fiber nonwoven mats comprising heat-resistant fibers (aramid, polyester, glass fibers, etc.), the purpose disclosed by Arkens et al. would have been recognized in the pertinent art of Jaffee.

g. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mats of Jaffee and provide them with the binder composition of Arkens et al. with the motivation of being able to carry out the drying and curing functions in two or more distinct steps, if desired (col. 8, lines 42-60). This process is referred to as “B-staging”. The limitation of “a binder that is at least partially cured and consists essentially of, before drying and curing, a homopolymer or a copolymer of polyacrylic acid and a polyol” is met by the composition of Arkens et al. as the claimed process is the “B-staging” of Arkens et al.

h. Although the prior art of Jaffee in combination with Arkens et al. does not explicitly teach the claimed ratio of wet tensile strength to dry tensile strength or air permeability it is reasonable to presume that this property is inherent to a mat from the

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combination of Jaffee and Arkens. Support for said presumption is found in the use of like materials (i.e. nonwoven mat formed in the same manner that includes glass fibers and polyester fibers, with a binder that prior to curing includes a polyacid and a polyol similar to the one claimed herein). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of wet tensile strength/dry tensile strength or air permeability would obviously have been present one the product form the combination of Jaffee and Arkens is provided. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80.

i. With regards to the claimed property of passing the NFPA Method #701 Flammability Test, it is the Examiner's position that such property will also be inherent to the structure from the combination of Jaffee and Arkens et al. for the same reasons stated in the paragraph above.

Response to Arguments

3. Applicant's arguments with respect to claims 51-64, 71-84, 91-94 and 99 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW D. MATZEK whose telephone number is (571)272-2423. The examiner can normally be reached on M-F, 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571.272.1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew D Matzek/
Examiner, Art Unit 1794

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit
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